2005 STANDARD DRAWINGS

http://www.udot.utah.gov/index.php/m=c/tid=1091

Change 3, July 12, 2005

Memorandum UTAH DEPARTMENT OF TRANSPORTATION

DATE: July 12, 2005

TO: Region Directors
Project Engineers
Project Design Engineers
Project Managers
Consultants and Contractors

FROM: Barry Axelrod, CDT
Standards and Specifications

SUBJECT: 2005 Standard Drawings [U.S. Standard Unit (Inch-Pound Units)] Change 3, Dated July 12, 2005

A new index and updated drawings are attached. Please take the following action with respect to the attached pages.

REMOVE	**INSERT**
Cover	Cover - revised for Change Three
N/A	Memo - Insert after cover
Index	Index - revised
Listing	Listing of Revised Standard Drawings, With Changes 1, 2, & 3
Sheet 1B	Sheet 1B - revised
Sheet 1C	Sheet 1C - revised
CB 5A	CB 5A - revised
GW 5A	GW 5A - revised
GW 5B	GW 5B - revised
GW 5C	GW 5C - revised

Electronic files for all Standards Drawings are available on the Internet from the "2005 Standards" Web page, under "2005 Standard Drawings." Individual files are available in two locations. For Microstation DGN format files download individual files from the "2005 Individual Standard Drawings (DGN)" link. For Adobe PDF format files download individual and series files from the "2005 Individual Standard Drawings (PDF)" link. The Series files are zipped in an EXE file. The entire set of drawings is available in Adobe pdf format in six files from the same area as the "2005 Current Drawings" link. The following page shows a break down of the six parts and the drawing series included in each part.

Any changes made to a digitally signed UDOT Standard Drawing Microstation DGN files automatically invalids the digital signatures.

If you have any questions or problems with the electronic files contact me at 801-964-4570 or by email at baxelrod@utah.gov.

Because of file size the 2005 Standard Drawings have been split into six files. The contents of each part are listed below.

Part 1 (Updated as part of Change 1, 2, and 3)
Index
Sheets 1B and 1C
AT Series Drawings
BA Series Drawings

Part 2 (Updated as part of Change 1, 2, and 3)
CB Series Drawings
CC Series Drawings
DB Series Drawings

Part 3 (Updated as part of Change 1 and 2)
DD Series Drawings
DG Series Drawings
EN Series Drawings

Part 4 (Updated as part of Change 1, 2, and 3)
FG Series Drawings
GF Series Drawings
GW Series Drawings

Part 5 (Updated as part of Change 2)
PV Series Drawings
SL Series Drawings
SN Series Drawings

Part 6 (Updated as part of Change 1)
ST Series Drawings
SW Series Drawings
TC Series Drawings

STANDARD DRAWINGS INDEX (Change 3, Dated 07/12/05)
UTAH DEPARTMENT OF TRANSPORTATION

	NUMBER	TITLE	CURRENT DATE
		Advanced Traffic Management System (AT)	
___	AT 1	Legend Sheet	02/24/05
___	AT 2	Ramp Meter Details	02/24/05
___	AT 3	Ramp Meter Sign Panel	02/24/05
___	AT 4	Typical Ramp Meter Signal Head Mounting	04/28/05
___	AT 5	Ramp Meter Loop Installation	02/24/05
___	AT 6	Conduit Details	02/24/05
___	AT 7	Polymer-Concrete Junction Box Details	02/24/05
___	AT 8	ATMS Cabinet	02/24/05
___	AT 9	ATMS Cabinet Disconnect And Transformer Frame	02/24/05
___	AT 10	CCTV Mounting Details	02/24/05
___	AT 11	CCTV Pole Details	02/24/05
___	AT 12	CCTV Pole Foundation For Dedicated CCTV Pole	02/24/05
___	AT 13	Not Used	
___	AT 14	Weigh In Motion Piezo Details	02/24/05
___	AT 15	RWIS Site And Foundation Details	02/24/05
___	AT 16	RWIS Tower Base And Service Pad Layout	02/24/05
___	AT 17	Ground Rod Installation And Tower Grounding	02/24/05
___	AT 18	TMS Detection Zone Layout	02/24/05
		Barriers (BA)	
___	BA 1A	Precast Concrete Full Barrier Standard Section	01/01/05
___	BA 1B	Precast Concrete Full Barrier Standard Section	01/01/05
___	BA 1C	Precast Concrete Barrier Terminal For Speed ≤ 40 MPH	01/01/05
___	BA 1D	Precast Concrete Full Section Median Installation	01/01/05
___	BA 1E	Precast Concrete Full Section Shoulder Applications	01/01/05
___	BA 2	Precast Concrete Half Barrier Standard Section	01/01/05
___	BA 3A	Cast In Place Constant Slope Barrier	02/24/05
___	BA 3B	Precast Concrete Constant Slope Transition Section For Crash Cushion And W-Beam Guardrail	02/24/05
___	BA 4A	W-Beam Guardrail Hardware	01/01/05
___	BA 4B	W-Beam Guardrail Transition	02/24/05
___	BA 4C	W-Beam Guardrail Transition Curb Section	02/24/05
___	BA 4D	W-Beam Guardrail Anchor Type I	01/01/05
___	BA 4E	W-Beam Guardrail Installations	01/01/05
___	BA 4F	W-Beam Guardrail Typicals Divided Roadways	01/01/05
___	BA 4G	W-Beam Guardrail Typical Multilane Arterial	01/01/05
___	BA 4H	W-Beam Guardrail Typical 2 Lane 2 Way	01/01/05
___	BA 4I	W-Beam Guardrail Buried In Backslope Terminal	01/01/05
___	BA 4J	W-Beam Guardrail Buried In Backslope Terminal With Rub Rail	01/01/05
___	BA 4K	W-Beam Guardrail Buried In Backslope Terminal Anchor	01/01/05
___	BA 4L	W-Beam Guardrail Curve Details	01/01/05

___	BA 4M	W-Beam Guardrail Nested Guardrail 12’ 6” Span	01/01/05
___	BA 4N	W-Beam Guardrail Nested Guardrail 18’ 9” Span	01/01/05
___	BA 4O	W-Beam Guardrail Nested Guardrail 25’ Span	01/01/05
___	BA 4P	W-Beam Guardrail With Precast Barrier For Span > 25’	01/01/05

Catch Basins And Cleanouts (CB)

___	CB 1	Curb and Gutter Inlet	04/28/05
___	CB 2	Open Curb Inlet	04/28/05
___	CB 3	Shallow Catch Basin	04/28/05
___	CB 4	Open Curb Shallow Catch Basin	01/01/05
___	CB 5A	Standard Catch Basin and Cleanout Box	**06/30/05**
___	CB 5B	Standard Catch Basin and Cleanout Box Section	01/01/05
___	CB 6A	Drop Inlet Type “A”	01/01/05
___	CB 6B	Berm Apron With Drop Inlet Type “A”	01/01/05
___	CB 7A	Drop Inlet Type “B”	01/01/05
___	CB 7B	Normal Apron With Drop Inlet Type “B”	01/01/05
___	CB 8A	Double Catch Basin	01/01/05
___	CB 8B	Double Catch Basin	01/01/05
___	CB 9A	Standard Catch Basin And Cleanout Box Situation And Layout	01/01/05
___	CB 9B	Standard Catch Basin And Cleanout Box Section Details	01/01/05
___	CB 9C	Standard Catch Basin And Cleanout Box Schedule Of Installation 18” to 42” RCP 12” to 48” CMP	01/01/05
___	CB 9D	Standard Catch Basin And Cleanout Box Schedule Of Installation 48” to 66” RCP 60” to 78” CMP	01/01/05
___	CB 10A	Standard Catch Basin And Cleanout Box Situation And Layout	01/01/05
___	CB 10B	Standard Catch Basin And Cleanout Box Section Details	01/01/05
___	CB 10C	Standard Catch Basin And Cleanout Box Schedule Of Installation 42” to 60” RCP 48” to 72” CMP	01/01/05
___	CB 11	Standard Manhole	01/01/05

Crash Cushions (CC)

___	CC 1	Crash Cushion Markings	01/01/05
___	CC 2	Crash Cushion Drainage Details Guideline A	01/01/05
___	CC 3	Crash Cushion Drainage Details Guideline B	01/01/05
___	CC 4	Details For Placement Crash Cushions Type A, B, And D	01/01/05
___	CC 5	Grading And Placement Details Crash Cushion Type C	01/01/05
___	CC 6	Crash Cushion Type E Sand Barrel Details	01/01/05
___	CC 7A	Grading And Installation Details Crash Cushion Type F Quad Trend 350	02/24/05
___	CC 7B	Reserved For Future Use	
___	CC 8A	Grading And Installation Details Crash Cushion Type G	04/28/05
___	CC 8B	Grading And Installation Details For “3R” Projects Crash Cushion Type G	04/28/05
___	CC 9A	Grading And Installation Details Crash Cushion Type H	04/28/05
___	CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	04/28/05

Diversion Boxes (DB)

___	DB 1A	Standard Diversion Box/Cover Plate/Grating For 18” DIA. or 24” DIA. Pipe	01/01/05
___	DB 1B	Standard Diversion Box Hinged Lid Details For 18” DIA. or 24” DIA. Pipe	01/01/05
___	DB 1C	Standard Diversion Box Bicycle - Safe Grating Details For 18” DIA. or 24” DIA. Pipe	01/01/05
___	DB 1D	Standard Diversion Box Three Gate Box Sections For 18” DIA. or 24” DIA. Pipe	01/01/05
___	DB 1E	Standard Diversion Box Three Gate Box Sections For 18” DIA. or 24” DIA. Pipe	01/01/05
___	DB 1F	Standard Diversion Box Three Gate Box Sections For 18” DIA. or 24” DIA. Pipe	01/01/05
___	DB 2A	Standard Diversion Box w/Interchangeable Walls, Bottom Slab, Walls And Apron Details	01/01/05
___	DB 2B	Standard Diversion Box w/Interchangeable Walls, Quantities Schedule	01/01/05
___	DB 2C	Standard Diversion Box w/Interchangeable Walls, Hand Slide Gate Details	01/01/05
___	DB 2D	Standard Diversion Box Type “G” Hand Slide Gate Details	01/01/05
___	DB 2E	Standard Diversion Box Hinged Lid (Solid Cover Plate) Type “A” Details Type I Plan	01/01/05
___	DB 2F	Standard Diversion Box Hinged Lid (Solid Cover Plate) Type “A” Details Type II Plan	01/01/05
___	DB 2G	Standard Diversion Box Hinged Lid Solid Cover Type “B” Details	01/01/05
___	DB 2H	Standard Diversion Box Hinged Lid Solid Cover Type “B” And “C” Details	01/01/05
___	DB 3A	Standard Diversion Box With Manhole Cover Situation And Layout	01/01/05
___	DB 3B	Standard Diversion Box With Manhole Cover Up To 42” RCP And Up To 54” CMP	01/01/05
___	DB 3C	Standard Diversion Box With Manhole Cover 48” to 72” RCP And 60” to 84” CMP	01/01/05
___	DB 4	Standard Transition Concrete Lined Ditch To Pipe Or Diversion Box	01/01/05

Design Drawings (DD)

___	DD 1	Superelevation And Widening	01/01/05
___	DD 2	Surface Ditch, Benched Slope, And Cut Ditch Details	01/01/05
___	DD 3	Climbing Lanes	01/01/05
___	DD 4	Geometric Design for Freeways (Roadway)	04/28/05
___	DD 5	Entrance And Exit Ramps At Crossroads	01/01/05
___	DD 6	Entrance And Exit Ramp Geometrics	01/01/05
___	DD 7	Freeway Crossover	01/01/05
___	DD 8	Structural Geometric Design Standards For Clearances	01/01/05
___	DD 9	Structural Geometric Design Standards	01/01/05
___	DD 10	Railroad Clearances At Highway Overpass Structures	01/01/05

___	DD 11	Rural Multi Lane Highways Other Than Freeways	01/01/05
___	DD 12	Rural Two Lane Highways	01/01/05
___	DD 13	Frontage And Access Roads (Under 50 ADT)	01/01/05
___	DD 14	Typical Rural 2 Lane Road With Median Lane And Deceleration Lane For Intersecting Crossroads	01/01/05

Drainage (DG)

___	DG 1	Fill Height for Metal Pipe (Steel)	01/01/05
___	DG 2	Fill Height for Metal Pipe (Aluminum)	01/01/05
___	DG 3	Maximum Fill Height For HDPE And PVC Pipes	01/01/05
___	DG 4	Pipe Minimum Cover	01/01/05
___	DG 5	Plastic Pipe, Metal Pipe Or Pipe Arch Culvert Bedding	01/01/05
___	DG 6	Precast Concrete Pipe Culvert	01/01/05
___	DG 7	Gasketted Joints Or Coupling Bands For CMP	01/01/05
___	DG 8	Metal Culvert End Section	01/01/05
___	DG 9	Miscellaneous Pipe Details	01/01/05

Environmental Controls (EN)

___	EN 1	Temporary Erosion Control (Check Dams)	01/01/05
___	EN 2	Temporary Erosion Control (Silt Fence)	01/01/05
___	EN 3	Temporary Erosion Control (Slope Drain And Temporary Berm)	01/01/05
___	EN 4	Temporary Erosion Control (Drop Inlet Barriers)	01/01/05
___	EN 5	Temporary Erosion Control (Sediment Trap And Curb Inlet Barrier)	01/01/05

Fence And Gates (FG)

___	FG 1A	Right Of Way Fence And Gates (Wood Post)	01/01/05
___	FG 1B	Right Of Way Fence And Gates (Wood Post)	01/01/05
___	FG 2A	Right Of Way Fence And Gates (Metal Post)	01/01/05
___	FG 2B	Right Of Way Fence And Gates (Metal Post)	01/01/05
___	FG 3	Swing Gates Type I For Gates Less Than 17’	02/24/05
___	FG 4A	Deer Crossing Details	04/28/05
___	FG 4B	Deer Ramp Details	04/28/05
___	FG 5	Swing Gates Type II For Gates Wider Than 17’	01/01/05
___	FG 6	Chain Link Fence	01/01/05

Grates, Frames, And Trash Racks (GF)

___	GF 1	Manhole Frame And Grated Cover	01/01/05
___	GF 2	Manhole Frame And Solid Cover	01/01/05
___	GF 3	Rectangular Grate And Frame	01/01/05
___	GF 4	Directional Flow Grate And Frame	01/01/05
___	GF 5	Solid Cover And Frame	01/01/05
___	GF 6	Manhole Steps	01/01/05
___	GF 7	Standard Screw Gate And Frame	01/01/05
___	GF 8	2’ x 2’ Grate And Frame	01/01/05
___	GF 9	28” x 24” Directional Flow Grate And Frame	01/01/05
___	GF 10	Standard Trash Racks 90 ° X-ing Angle	01/01/05

___	GF 11	Standard Trash Racks	01/01/05
___	GF 12	Standard Trash Racks	01/01/05
___	GF 13	Open Curb Inlet Grate and Frame	01/01/05
___	GF 14	Solid Cover For Std Dwg DB 1 MS-18 Loading	01/01/05
___	GF 15	Standard Screw Gate And Frame	01/01/05
		General Road Work (GW)	
___	GW 1	Raised Median And Plowable End Section	01/01/05
___	GW 2	Concrete Curb And Gutter	01/01/05
___	GW 3	Concrete Curb And Gutter Details	01/01/05
___	GW 4	Concrete Driveways And Sidewalks	01/01/05
___	GW 5A	Pedestrian Access	**06/30/05**
___	GW 5B	Pedestrian Access	**06/30/05**
___	GW 5C	Pedestrian Access	**06/30/05**
___	GW 6	Right Of Way Marker	01/01/05
___	GW 7	Newspaper And Mailbox Stop Layout	01/01/05
___	GW 8	Newspaper And Mailbox Support Hardware	01/01/05
___	GW 9	Delineation Hardware	01/01/05
___	GW 10	Delineation Application	01/01/05
___	GW 11	Sidewalks And Shoulders On Urban Roadways	01/01/05
		Paving (PV)	
___	PV 1	Joints For Highways With Concrete Traffic Lanes And Shoulders	01/01/05
___	PV 2	Pavement/Approach Slab Details	01/01/05
___	PV 3	Concrete Pavement Details For Urban And Interstate	01/01/05
___	PV 4	Concrete Pavement Details For Urban And Interstate	01/01/05
___	PV 5	Urban Concrete Pavement Details	01/01/05
___	PV 6	Rumble Strips	01/01/05
___	PV 7	Rumble Strips - Typical Application	01/01/05
___	PV 8	Note Used	
___	PV 9	Dowel Bar Retrofit	01/01/05
		Signals (SL)	
___	SL 1A	Traffic Signal Mast Arm Pole And Luminaire Extension	01/01/05
___	SL 1B	Traffic Signal Mast Arm Pole And Luminaire Extension	01/01/05
___	SL 2	Traffic Signal Mast Arm Details 30’ Thru 75’	01/01/05
___	SL 3	Underground Service Pedestal Details	01/01/05
___	SL 4	Traffic Signal Mast Arm Pole Foundation	01/01/05
___	SL 5	Traffic Signal Pole	01/01/05
___	SL 6	Pole Mounted Power Source Details	01/01/05
___	SL 7	Span Wire Signal Pole Details	01/01/05
___	SL 8	Signal Head Details	01/01/05
___	SL 9	Pedestrian Signal Assembly	01/01/05
___	SL 10	Traffic Signal Controller Base Details	01/01/05
___	SL 11	Traffic Signal Loop Detector Details	01/01/05
___	SL 12	Traffic Counting Loop Detector Details	04/28/05

___	SL 13	Video Detection Camera Mount	04/28/05
___	SL 14	Highway Luminaire Pole Ground Mount	01/01/05
___	SL 15	Luminaire Slip Base Details	01/01/05
___	SL 16	Highway Luminaire Pole Barrier Mount	01/01/05
___	SL 17	Highway Luminaire Pole Foundation Extension	01/01/05
___	SL 18	Single Transformer Substation Details	01/01/05

Signs (SN)

___	SN 1	Bridge Load Limits Signs	01/01/05
___	SN 2	School Speed Limit Assembly	01/01/05
___	SN 3	Overhead School Speed Limit Assembly	01/01/05
___	SN 4	Flashing Stop Sign	01/01/05
___	SN 5	Typical Installation For Milepost Signs	01/01/05
___	SN 6	Speed Reduction Sign Sequence	01/01/05
___	SN 7	Placement of Ground Mounted Signs	01/01/05
___	SN 8	Ground Mounted Timber Sign Post (P1)	04/28/05
___	SN 9	Ground Mounted Tubular Steel Sign Post (P2)	01/01/05
___	SN 10	Ground Mounted Square Steel Sign Post (P3)	01/01/05
___	SN 11	Slipbase Ground Mounted Tubular Steel Sign Post (P4)	04/28/05
___	SN 12A	Ground Mounted Sign Installation Details	01/01/05
___	SN 12B	Ground Mounted Sign Installation Details	01/01/05
___	SN 12C	Ground Mounted Sign Installation Details	01/01/05

Striping (ST)

___	ST 1	Object Markers “T” Intersection And Pavement Transition Guidance	01/01/05
___	ST 2	Freeway Crossover Markings	01/01/05
___	ST 3	Typical Pavement Markings	01/01/05
___	ST 4	Crosswalks, Parking And Intersection Approaches	01/01/05
___	ST 5	Painted Median And Auxiliary Lane Details	02/24/05
___	ST 6	Passing/Climbing Lanes Traffic Control	01/01/05
___	ST 7	Pavement Markings And Signs At Railroad Crossing	01/01/05
___	ST 8	Plowable Pavement Markers	01/01/05
___	ST 9	School Crossing And School Message	01/01/05

Structures And Walls (SW)

___	SW 1A	Welded End Guard Unit	01/01/05
___	SW 1B	Precast Concrete Cattle Guard	01/01/05
___	SW 2	Noise Wall Placement Area	01/01/05
___	SW 3A	Precast Concrete Noise Wall 1 Of 2	01/01/05
___	SW 3B	Precast Concrete Noise Wall 2 Of 2	01/01/05
___	SW 4A	Precast Concrete Retaining/Noise Wall 1 Of 2	01/01/05
___	SW 4B	Precast Concrete Retaining/Noise Wall 2 Of 2	01/01/05

Traffic Control (TC)

___	TC 1A	Construction Zone Channelization Devices	01/01/05
___	TC 1B	Construction Zone Signing	01/01/05

___	TC 2A	Traffic Control General	01/01/05
___	TC 2B	Traffic Control General	01/01/05
___	TC 3	Traffic Control Project Limit Signing	01/01/05
___	TC 4	Traffic Control Urban Intersections With Roadways Under 50 MPH	01/01/05
___	TC 5	Traffic Control Urban Intersections With Roadways Under 50 MPH	01/01/05
___	TC 6	Traffic Control Pedestrian Routing	01/01/05
___	TC 7	Traffic Control Road Closed, Detour	01/01/05
___	TC 8	Traffic Control Lane Closure	01/01/05
___	TC 9	Traffic Control Multilane Closure	01/01/05
___	TC 10	Traffic Control Expressway And Freeway Crossover/Turn Around	01/01/05
___	TC 11	Traffic Control Exit Ramp Gore	01/01/05
___	TC 12	Traffic Control Entrance Ramp Gore	01/01/05
___	TC 13	Traffic Control Shoulder-Haul Road	01/01/05
___	TC 14	Traffic Control Flagging Operation	01/01/05
___	TC 15	Traffic Control 2 Lane/2 Way Seal Coat With Cover Material	01/01/05
___	TC 16	Traffic Control Pavement Marking	01/01/05

Listing of Revised Standard Drawings

Change One

Revised February 24, 2005

AT 1	Legend Sheet	02/24/2005
AT 2	Ramp Meter Details	02/24/2005
AT 3	Ramp Meter Sign Panel	02/24/2005
AT 5	Ramp Meter Loop Installation	02/24/2005
AT 6	Conduit Details	02/24/2005
AT 7	Polymer-Concrete Junction Box Details	02/24/2005
AT 8	ATMS Cabinet	02/24/2005
AT 9	ATMS Cabinet Disconnect And Transformer Frame	02/24/2005
AT 10	CCTV Mounting Details	02/24/2005
AT 11	CCTV Pole Details	02/24/2005
AT 12	CCTV Pole Foundation For Dedicated CCTV Pole	02/24/2005
AT 13	Deleted	N/A
AT 14	Weigh In Motion Piezo Details	02/24/2005
AT 15	RWIS Site And Foundation Details	02/24/2005
AT 16	RWIS Tower Base And Service Pad Layout	02/24/2005
AT 17	Ground Rod Installation And Tower Grounding	02/24/2005
AT 18	TMS Detection Zone Layout	02/24/2005
BA 3	Deleted	N/A
BA 3A	Cast In Place Constant Slope Barrier	02/24/2005
BA 3B	Precast Concrete Constant Slope Transition Section For Crash Cushion And W-Beam Guardrail	02/24/2005
BA 4B	W-Beam Guardrail Transition	02/24/2005
BA 4C	W-Beam Guardrail Transition Curb Section	02/24/2005
CC 7	Deleted	N/A
CC 7A	Grading And Installation Details Crash Cushion Type F Quad Trend 350	02/24/2005
CC 7B	Reserved For Future Use	N/A
CC 8	Deleted	N/A
CC 8A	Grading And Installation Details Crash Cushion Type G	02/24/2005
CC 8B	Grading And Installation Details For “3R” Projects Crash Cushion Type G	02/24/2005
CC 9A	Grading And Installation Details Crash Cushion Type H	02/24/2005
CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	02/24/2005
DD 4	Geometric Design for Freeways (Roadway)	02/24/2005
FG 3	Swing Gates Type I For Gates Less Than 17’	02/24/2005
ST 5	Painted Median And Auxiliary Lane Details	02/24/2005

Change Two

Revised April 28, 2005

AT 4	Typical Ramp Meter Signal Head Mounting	04/28/2005
CB 1	Curb and Gutter Inlet	04/28/2005
CB 2	Open Curb Inlet	04/28/2005
CB 3	Shallow Catch Basin	04/28/2005
CC 8A	Grading And Installation Details Crash Cushion Type G	04/28/2005
CC 8B	Grading And Installation Details For “3R” Projects Crash Cushion Type G	04/28/2005
CC 9A	Grading And Installation Details Crash Cushion Type H	04/28/2005
CC 9B	Grading And Installation Details Crash Cushion Type H (Parabolic Flare)	04/28/2005
DD 4	Geometric Design for Freeways (Roadway)	04/28/2005
FG 4	Deleted	N/A
FG 4A	Deer Crossing Details	04/28/2005
FG 4B	Deer Ramp Details	04/28/2005
SL 12	Traffic Counting Loop Detector Details	04/28/2005
SL 13	Video Detection Camera Mount	04/28/2005
SN 8	Ground Mounted Timber Sign Post (P1)	04/28/2005
SN 11	Slipbase Ground Mounted Tubular Steel Sign Post (P4)	04/28/2005

Change Three

Revised June 30, 2005

CB 5A	Standard Catch Basin and Cleanout Box	06/30/2005
GW 5A	Pedestrian Access	06/30/2005
GW 5B	Pedestrian Access	06/30/2005
GW 5C	Pedestrian Access	06/30/2005

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

	DWG. NO.	DESCRIPTION	DATE
		Advanced Traffic Management System (AT)	
	AT 1	LEGEND SHEET	02-24-05
	AT 2	RAMP METER DETAILS	02-24-05
	AT 3	RAMP METER SIGN PANEL	02-24-05
	AT 4	TYPICAL RAMP METER SIGNAL HEAD MOUNTING	04-28-05
	AT 5	RAMP METER LOOP INSTALLATION	02-24-05
	AT 6	CONDUIT DETAILS	02-24-05
	AT 7	POLYMER-CONCRETE JUNCTION BOX DETAILS	02-24-05
	AT 8	ATMS CABINET	02-24-05
	AT 9	ATMS CABINET DISCONNECT AND TRANSFORMER FRAME	02-24-05
	AT 10	CCTV MOUNTING DETAILS	02-24-05
	AT 11	CCTV POLE DETAILS	02-24-05
	AT 12	CCTV POLE FOUNDATION FOR DEDICATED CCTV POLE	02-24-05
	AT 13	NOT USED	
	AT 14	WEIGHT IN MOTION PIEZO DETAILS	02-24-05
	AT 15	RWIS SITE AND FOUNDATION DETAILS	02-24-05
	AT 16	RWIS TOWER BASE AND SERVICE PAD LAYOUT	02-24-05
	AT 17	GROUND ROD INSTALLATION AND TOWER GROUNDING	02-24-05
	AT 18	TMS DETECTION ZONE LAYOUT	02-24-05
		Barriers (BA)	
	BA 1A	PRECAST CONCRETE FULL BARRIER STANDARD SECTION	01-01-05
	BA 1B	PRECAST CONCRETE FULL BARRIER STANDARD SECTION	01-01-05
	BA 1C	PRECAST CONCRETE BARRIER TERMINAL FOR SPEED ≤40 MPH	01-01-05
	BA 1D	PRECAST CONCRETE FULL SECTION MEDIAN INSTALLATION	01-01-05
	BA 1E	PRECAST CONCRETE FULL SECTION SHOULDER APPLICATIONS	01-01-05
	BA 2	PRECAST CONCRETE HALF BARRIER STANDARD SECTION	01-01-05
	BA 3A	CAST IN PLACE CONSTANT SLOPE BARRIER	02-24-05
	BA 3B	PRECAST CONCRETE CONSTANT SLOPE TRANSITION SECTION FOR CRASH CUSHION AND W-BEAM GUARDRAIL	02-24-05
	BA 4A	W-BEAM GUARDRAIL HARDWARE	01-01-05
	BA 4B	W-BEAM GUARDRAIL TRANSITION	02-24-05
	BA 4C	W-BEAM GUARDRAIL TRANSITION CURB SECTIONS	02-24-05
	BA 4D	W-BEAM GUARDRAIL ANCHOR TYPE I	01-01-05
	BA 4E	W-BEAM GUARDRAIL INSTALLATIONS	01-01-05
	BA 4F	W-BEAM GUARDRAIL TYPICALS DIVIDED ROADWAYS	01-01-05
	BA 4G	W-BEAM GUARDRAIL TYPICAL MULTILANE ARTERIAL	01-01-05
	BA 4H	W-BEAM GUARDRAIL TYPICAL 2 LANE 2 WAY	01-01-05
	BA 4I	W-BEAM GUARDRAIL BURIED IN BACKSLOPE TERMINAL	01-01-05
	BA 4J	W-BEAM GUARDRAIL BURIED IN BACKSLOPE TERMINAL WITH RUB RAIL	01-01-05
	BA 4K	W-BEAM GUARDRAIL BURIED IN BACKSLOPE TERMINAL ANCHOR	01-01-05
	BA 4L	W-BEAM GUARDRAIL CURVE DETAILS	01-01-05
	BA 4M	W-BEAM GUARDRAIL NESTED GUARDRAIL 12' 6" SPAN	01-01-05
	BA 4N	W-BEAM GUARDRAIL NESTED GUARDRAIL 18' 9" SPAN	01-01-05
	BA 4O	W-BEAM GUARDRAIL NESTED GUARDRAIL 25' SPAN	01-01-05
	BA 4P	W-BEAM GUARDRAIL WITH PRECAST BARRIER FOR SPAN > 25'	01-01-05

	DWG. NO.	DESCRIPTION	DATE
		Catch Basins and Cleanouts (CB)	
	CB 1	CURB AND GUTTER INLET	04-28-05
	CB 2	OPEN CURB INLET	04-28-05
	CB 3	SHALLOW CATCH BASIN	04-28-05
	CB 4	OPEN CURB SHALLOW CATCH BASIN	01-01-05
	CB 5A	STANDARD CATCH BASIN AND CLEANOUT BOX	06-30-05
	CB 5B	STANDARD CATCH BASIN AND CLEANOUT BOX SECTION	01-01-05
	CB 6A	DROP INLET TYPE "A"	01-01-05
	CB 6B	BERM APRON WITH DROP INLET TYPE "A"	01-01-05
	CB 7A	DROP INLET TYPE "B"	01-01-05
	CB 7B	NORMAL APRON WITH DROP INLET TYPE "B"	01-01-05
	CB 8A	DOUBLE CATCH BASIN	01-01-05
	CB 8B	DOUBLE CATCH BASIN	01-01-05
	CB 9A	STANDARD CATCH BASIN AND CLEANOUT BOX SITUATION AND LAYOUT	01-01-05
	CB 9B	STANDARD CATCH BASIN AND CLEANOUT BOX SECTION DETAILS	01-01-05
	CB 9C	STANDARD CATCH BASIN AND CLEANOUT BOX SCHEDULE OF INSTALLATION 18" TO 42" RCP 12" TO 48" CMP	01-01-05
	CB 9D	STANDARD CATCH BASIN AND CLEANOUT BOX SCHEDULE OF INSTALLATION 48" TO 66" RCP 60" TO 78" CMP	01-01-05
	CB 10A	STANDARD CATCH BASIN AND CLEANOUT BOX SITUATION AND LAYOUT	01-01-05
	CB 10B	STANDARD CATCH BASIN AND CLEANOUT BOX SECTION DETAILS	01-01-05
	CB 10C	STANDARD CATCH BASIN AND CLEANOUT BOX SCHEDULE OF INSTALLATION 42" TO 60" RCP 48" TO 72" CMP	01-01-05
	CB 11	STANDARD MANHOLE	01-01-05
		Crash Cushions (CC)	
	CC 1	CRASH CUSHION MARKINGS	01-01-05
	CC 2	CRASH CUSHION DRAINAGE DETAILS GUIDELINE A	01-01-05
	CC 3	CRASH CUSHION DRAINAGE DETAILS GUIDELINE B	01-01-05
	CC 4	DETAIL FOR PLACEMENT CRASH CUSHIONS TYPE A, B AND D	01-01-05
	CC 5	GRADING AND PLACEMENT DETAILS CRASH CUSHION TYPE C	01-01-05
	CC 6	CRASH CUSHION TYPE E SAND BARREL DETAILS	01-01-05
	CC 7A	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE F QUAD TREND 350	02-24-05
	CC 7B	RESERVED	
	CC 8A	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE G	04-28-05
	CC 8B	GRADING AND INSTALLATION DETAILS FOR "3R" PROJECTS CRASH CUSHION TYPE G	04-28-05
	CC 9A	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE H	04-28-05
	CC 9B	GRADING AND INSTALLATION DETAILS CRASH CUSHION TYPE H (PARABOLIC FLARE)	04-28-05
		Diversion Boxes (DB)	
	DB 1A	STANDARD DIVERSION BOX/COVER PLATE/GRATING FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
	DB 1B	STANDARD DIVERSION BOX HINGED LID DETAILS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
	DB 1C	STANDARD DIVERSION BOX BICYCLE-SAFE GRATING DETAILS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
	DB 1D	STANDARD DIVERSION BOX THREE GATE BOX SECTIONS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
	DB 1E	STANDARD DIVERSION BOX THREE GATE BOX SECTIONS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
	DB 1F	STANDARD DIVERSION BOX THREE GATE BOX SECTIONS FOR 18" DIA. OR 24" DIA. PIPE	01-01-05
	DB 2A	STANDARD DIVERSION BOX W/INTERCHANGEABLE WALLS, BOTTOM SLAB, WALLS AND APRON DETAILS	01-01-05
	DB 2B	STANDARD DIVERSION BOX W/INTERCHANGEABLE WALLS, QUANTITIES SCHEDULE	01-01-05
	DB 2C	STANDARD DIVERSION BOX W/INTERCHANGEABLE WALLS, HAND SLIDE GATE DETAILS	01-01-05
	DB 2D	STANDARD DIVERSION BOX TYPE "G" HAND SLIDE GATE DETAILS	01-01-05
	DB 2E	STANDARD DIVERSION BOX HINGED LID (SOLID COVER PLATE) TYPE "A" DETAILS TYPE I PLAN	01-01-05

	DWG. NO.	DESCRIPTION	DATE
	DB 2F	STANDARD DIVERSION BOX HINGED LID (SOLID COVER PLATE) TYPE "A" DETAILS TYPE II PLAN	01-01-05
	DB 2G	STANDARD DIVERSION BOX HINGED LID SOLID COVER TYPE "B" DETAILS	01-01-05
	DB 2H	STANDARD DIVERSION BOX HINGED LID SOLID COVER TYPE "B" AND "C" DETAILS	01-01-05
	DB 3A	STANDARD DIVERSION BOX WITH MANHOLE COVER SITUATION AND LAYOUT	01-01-05
	DB 3B	STANDARD DIVERSION BOX WITH MANHOLE COVER UP TO 42" RCP AND UP TO 54" CMP	01-01-05
	DB 3C	STANDARD DIVERSION BOX WITH MANHOLE COVER 48" TO 72" RCP AND 60" TO 84" CMP	01-01-05
	DB 4	STANDARD TRANSITION CONCRETE LINED DITCH TO PIPE OR DIVERSION BOX	01-01-05
		Design (DD)	
	DD 1	SUPERELEVATION AND WIDENING	01-01-05
	DD 2	SURFACE DITCH, BENCHED SLOPE, AND CUT DITCH DETAILS	01-01-05
	DD 3	CLIMBING LANES	01-01-05
	DD 4	GEOMETRIC DESIGN FOR FREEWAYS (ROADWAY)	04-28-05
	DD 5	ENTRANCE AND EXIT RAMPS AT CROSSROADS	01-01-05
	DD 6	ENTRANCE AND EXIT RAMP GEOMETRICS	01-01-05
	DD 7	FREEWAY CROSSOVER	01-01-05
	DD 8	STRUCTURAL GEOMETRIC DESIGN STANDARDS FOR CLEARANCES	01-01-05
	DD 9	STRUCTURAL GEOMETRIC DESIGN STANDARDS	01-01-05
	DD 10	RAILROAD CLEARANCES AT HIGHWAY OVERPASS STRUCTURES	01-01-05
	DD 11	RURAL MULTI LANE HIGHWAYS OTHER THAN FREEWAYS	01-01-05
	DD 12	RURAL TWO LANE HIGHWAYS	01-01-05
	DD 13	FRONTAGE AND ACCESS ROADS (UNDER 50 ADT)	01-01-05
	DD 14	TYPICAL RURAL 2 LANE ROAD WITH MEDIAN LANE AND DECELERATION LANE FOR INTERSECTING CROSSROADS	01-01-05
		Drainage (DG)	
	DG 1	FILL HEIGHT FOR METAL PIPE (STEEL)	01-01-05
	DG 2	FILL HEIGHT FOR METAL PIPE (ALUMINUM)	01-01-05
	DG 3	MAXIMUM FILL HEIGHT FOR HDPE AND PVC PIPES	01-01-05
	DG 4	PIPE MINIMUM COVER	01-01-05
	DG 5	PLASTIC PIPE, METAL PIPE OR PIPE ARCH CULVERT BEDDING	01-01-05
	DG 6	PRECAST CONCRETE PIPE CULVERT	01-01-05
	DG 7	GASKETTED JOINTS OR COUPLING BANDS FOR CMP	01-01-05
	DG 8	METAL CULVERT END SECTION	01-01-05
	DG 9	MISCELLANEOUS PIPE DETAILS	01-01-05
		Environmental Controls (EN)	
	EN 1	TEMPORARY EROSION CONTROL (CHECK DAMS)	01-01-05
	EN 2	TEMPORARY EROSION CONTROL (SILT FENCE)	01-01-05
	EN 3	TEMPORARY EROSION CONTROL (SLOPE DRAIN AND TEMPORARY BERM)	01-01-05
	EN 4	TEMPORARY EROSION CONTROL (DROP INLET BARRIERS)	01-01-05
	EN 5	TEMPORARY EROSION CONTROL (SEDIMENT TRAP AND CURB INLET BARRIER)	01-01-05

☒ MARKED BOXES INDICATE DRAWINGS APPLICABLE TO THIS PROJECT

NO.	DATE	APPR.	REMARKS
1	02/24/05	B.A.	CHANGE 1
2	04/28/05	B.A.	CHANGE 2
3	06/30/05	B.A.	CHANGE 3

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.30.2005 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.30.2005 DATE
DEPUTY DIRECTOR

STANDARD DRAWING INDEX SHEET

STANDARD DRAWING TITLE

STD DWG
1-B

DGN File: L:\Standard_Drawings\Imperial\2005\Approved\Change3\Approved\sheetlb.dgn
11-JUL-2005

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

	DWG. NO.	DESCRIPTION	DATE
		Fence and Gates (FG)	
	FG 1A	RIGHT OF WAY FENCE AND GATES (WOOD POST)	01-01-05
	FG 1B	RIGHT OF WAY FENCE AND GATES (WOOD POST)	01-01-05
	FG 2A	RIGHT OF WAY FENCE AND GATES (METAL POST)	01-01-05
	FG 2B	RIGHT OF WAY FENCE AND GATES (METAL POST)	01-01-05
	FG 3	SWING GATES TYPE 1 FOR GATES LESS THAN 17'	02-24-05
	FG 4A	DEER CROSSING DETAILS	04-28-05
	FG 4B	DEER RAMP DETAILS	04-28-05
	FG 5	SWING GATES TYPE II FOR GATES WIDER THAN 17'	01-01-05
	FG 6	CHAIN LINK FENCE	01-01-05
		Grates, Frames and Trash Racks (GF)	
	GF 1	MANHOLE FRAME AND GRATED COVER	01-01-05
	GF 2	MANHOLE FRAME AND SOLID COVER	01-01-05
	GF 3	RECTANGULAR GRATE AND FRAME	01-01-05
	GF 4	DIRECTIONAL FLOW GRATE AND FRAME	01-01-05
	GF 5	SOLID COVER AND FRAME	01-01-05
	GF 6	MANHOLE STEPS	01-01-05
	GF 7	STANDARD SCREW GATE AND FRAME	01-01-05
	GF 8	2' x 2' GRATE AND FRAME	01-01-05
	GF 9	28" x 24" DIRECTIONAL FLOW GRATE AND FRAME	01-01-05
	GF 10	STANDARD TRASH RACKS 90° X-ING ANGLE	01-01-05
	GF 11	STANDARD TRASH RACKS	01-01-05
	GF 12	STANDARD TRASH RACKS	01-01-05
	GF 13	OPEN CURB INLET GRATE AND FRAME	01-01-05
	GF 14	SOLID COVER FOR STD DWG DB 1 MS-18 LOADING	01-01-05
	GF 15	STANDARD SCREW GATE AND FRAME	01-01-05
		General Road Work (GW)	
	GW 1	RAISED MEDIAN AND PLOWABLE END SECTION	01-01-05
	GW 2	CONCRETE CURB AND GUTTER	01-01-05
	GW 3	CONCRETE CURB AND GUTTER DETAILS	01-01-05
	GW 4	CONCRETE DRIVEWAYS AND SIDEWALKS	01-01-05
	GW 5A	PEDESTRIAN ACCESS	06-30-05
	GW 5B	PEDESTRIAN ACCESS	06-30-05
	GW 5C	PEDESTRIAN ACCESS	06-30-05
	GW 6	RIGHT OF WAY MARKER	01-01-05
	GW 7	NEWSPAPER AND MAILBOX STOP LAYOUT	01-01-05
	GW 8	NEWSPAPER AND MAILBOX SUPPORT HARDWARE	01-01-05
	GW 9	DELINEATION HARDWARE	01-01-05
	GW 10	DELINEATION APPLICATION	01-01-05
	GW 11	SIDEWALKS AND SHOULDERS ON URBAN ROADWAYS	01-01-05

	DWG. NO.	DESCRIPTION	DATE
		Paving (PV)	
	PV 1	JOINTS FOR HIGHWAYS WITH CONCRETE TRAFFIC LANES AND SHOULDERS	01-01-05
	PV 2	PAVEMENT/APPROACH SLAB DETAILS	01-01-05
	PV 3	CONCRETE PAVEMENT DETAILS FOR URBAN AND INTERSTATE	01-01-05
	PV 4	CONCRETE PAVEMENT DETAILS FOR URBAN AND INTERSTATE	01-01-05
	PV 5	URBAN CONCRETE PAVEMENT DETAILS	01-01-05
	PV 6	RUMBLE STRIPS	01-01-05
	PV 7	RUMBLE STRIPS-TYPICAL APPLICATION	01-01-05
	PV 8	NOT USED	
	PV 9	DOWEL BAR RETROFIT	01-01-05
		Signals (SL)	
	SL 1A	TRAFFIC SIGNAL MAST ARM POLE AND LUMINAIRE EXTENSION	01-01-05
	SL 1B	TRAFFIC SIGNAL MAST ARM POLE AND LUMINAIRE EXTENSION	01-01-05
	SL 2	TRAFFIC SIGNAL MAST ARM DETAILS 30' THRU 75'	01-01-05
	SL 3	UNDERGROUND SERVICE PEDESTAL DETAILS	01-01-05
	SL 4	TRAFFIC SIGNAL MAST ARM POLE FOUNDATION	01-01-05
	SL 5	TRAFFIC SIGNAL POLE	01-01-05
	SL 6	POLE MOUNTED POWER SOURCE DETAILS	01-01-05
	SL 7	SPAN WIRE SIGNAL POLE DETAILS	01-01-05
	SL 8	SIGNAL HEAD DETAILS	01-01-05
	SL 9	PEDESTRIAN SIGNAL ASSEMBLY	01-01-05
	SL 10	TRAFFIC SIGNAL CONTROLLER BASE DETAILS	01-01-05
	SL 11	TRAFFIC SIGNAL LOOP DETECTOR DETAILS	01-01-05
	SL 12	TRAFFIC COUNTING LOOP DETECTOR DETAILS	04-28-05
	SL 13	VIDEO DETECTION CAMERA MOUNT	04-28-05
	SL 14	HIGHWAY LUMINAIRE POLE GROUND MOUNT	01-01-05
	SL 15	LUMINAIRE SLIP BASE DETAILS	01-01-05
	SL 16	HIGHWAY LUMINAIRE POLE BARRIER MOUNT	01-01-05
	SL 17	HIGHWAY LUMINAIRE POLE FOUNDATION EXTENSION	01-01-05
	SL 18	SINGLE TRANSFORMER SUBSTATION DETAILS	01-01-05
		Signs (SN)	
	SN 1	BRIDGE LOAD LIMITS SIGNS	01-01-05
	SN 2	SCHOOL SPEED LIMIT ASSEMBLY	01-01-05
	SN 3	OVERHEAD SCHOOL SPEED LIMIT ASSEMBLY	01-01-05
	SN 4	FLASHING STOP SIGN	01-01-05
	SN 5	TYPICAL INSTALLATION FOR MILEPOST SIGNS	01-01-05
	SN 6	SPEED REDUCTION SIGN SEQUENCE	01-01-05
	SN 7	PLACEMENT OF GROUND MOUNTED SIGNS	01-01-05
	SN 8	GROUND MOUNTED TIMBER SIGN POST (P1)	04-28-05
	SN 9	GROUND MOUNTED TUBULAR STEEL SIGN POST (P2)	01-01-05
	SN 10	GROUND MOUNTED SQUARE STEEL SIGN POST (P3)	01-01-05
	SN 11	SLIPBASE GROUND MOUNTED TUBULAR STEEL SIGN POST (P4)	04-28-05
	SN 12A	GROUND MOUNTED SIGN INSTALLATION DETAILS	01-01-05
	SN 12B	GROUND MOUNTED SIGN INSTALLATION DETAILS	01-01-05
	SN 12C	GROUND MOUNTED SIGN INSTALLATION DETAILS	01-01-05

	DWG. NO.	DESCRIPTION	DATE
		Striping (ST)	
	ST 1	OBJECT MARKERS "T" INTERSECTION AND PAVEMENT TRANSITION GUIDANCE	01-01-05
	ST 2	FREEWAY CROSSOVER MARKINGS	01-01-05
	ST 3	TYPICAL PAVEMENT MARKINGS	01-01-05
	ST 4	CROSSWALKS, PARKING AND INTERSECTION APPROACHES	01-01-05
	ST 5	PAINTED MEDIAN AND AUXILIARY LANE DETAILS	02-24-05
	ST 6	PASSING/CLIMBING LANES TRAFFIC CONTROL	01-01-05
	ST 7	PAVEMENT MARKINGS AND SIGNS AT RAILROAD CROSSING	01-01-05
	ST 8	PLOWABLE PAVEMENT MARKERS	01-01-05
	ST 9	SCHOOL CROSSING AND SCHOOL MESSAGE	01-01-05
		Structures and Walls (SW)	
	SW 1A	WELDED END GUARD UNIT	01-01-05
	SW 1B	PRECAST CONCRETE CATTLE GUARD	01-01-05
	SW 2	NOISE WALL PLACEMENT AREA	01-01-05
	SW 3A	PRECAST CONCRETE NOISE WALL 1 OF 2	01-01-05
	SW 3B	PRECAST CONCRETE NOISE WALL 2 OF 2	01-01-05
	SW 4A	PRECAST CONCRETE RETAINING/NOISE WALL 1 OF 2	01-01-05
	SW 4B	PRECAST CONCRETE RETAINING/NOISE WALL 2 OF 2	01-01-05
		Traffic Control (TC)	
	TC 1A	CONSTRUCTION ZONE CHANNELIZATION DEVICES	01-01-05
	TC 1B	CONSTRUCTION ZONE SIGNING	01-01-05
	TC 2A	TRAFFIC CONTROL GENERAL	01-01-05
	TC 2B	TRAFFIC CONTROL GENERAL	01-01-05
	TC 3	TRAFFIC CONTROL PROJECT LIMIT SIGNING	01-01-05
	TC 4	TRAFFIC CONTROL URBAN INTERSECTIONS WITH ROADWAYS UNDER 50 MPH	01-01-05
	TC 5	TRAFFIC CONTROL URBAN INTERSECTIONS WITH ROADWAYS UNDER 50 MPH	01-01-05
	TC 6	TRAFFIC CONTROL PEDESTRIAN ROUTING	01-01-05
	TC 7	TRAFFIC CONTROL ROAD CLOSED, DETOUR	01-01-05
	TC 8	TRAFFIC CONTROL LANE CLOSURE	01-01-05
	TC 9	TRAFFIC CONTROL MULTILANE CLOSURE	01-01-05
	TC 10	TRAFFIC CONTROL EXPRESSWAY AND FREEWAY CROSSOVER/ TURN AROUND	01-01-05
	TC 11	TRAFFIC CONTROL EXIT RAMP GORE	01-01-05
	TC 12	TRAFFIC CONTROL ENTRANCE RAMP GORE	01-01-05
	TC 13	TRAFFIC CONTROL SHOULDER-HAUL ROAD	01-01-05
	TC 14	TRAFFIC CONTROL FLAGGING OPERATION	01-01-05
	TC 15	TRAFFIC CONTROL 2 LANE / 2 WAY SEAL COAT WITH COVER MATERIAL	01-01-05
	TC 16	TRAFFIC CONTROL PAVEMENT MARKING	01-01-05

☒ MARKED BOXES INDICATE DRAWINGS APPLICABLE TO THIS PROJECT

REVISIONS

NO.	DATE	APPR.	REMARKS
1	02/24/05	B.A.	CHANGE 1
2	04/28/05	B.A.	CHANGE 2
3	06/30/05	B.A.	CHANGE 3

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

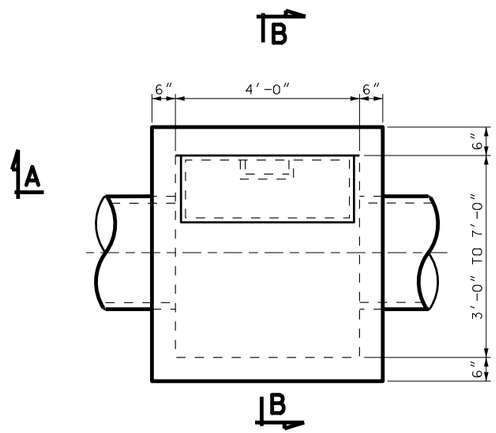
RECOMMENDED FOR APPROVAL — JUN.30.2005 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.30.2005 DATE
DEPUTY DIRECTOR

STANDARD DRAWING INDEX SHEET

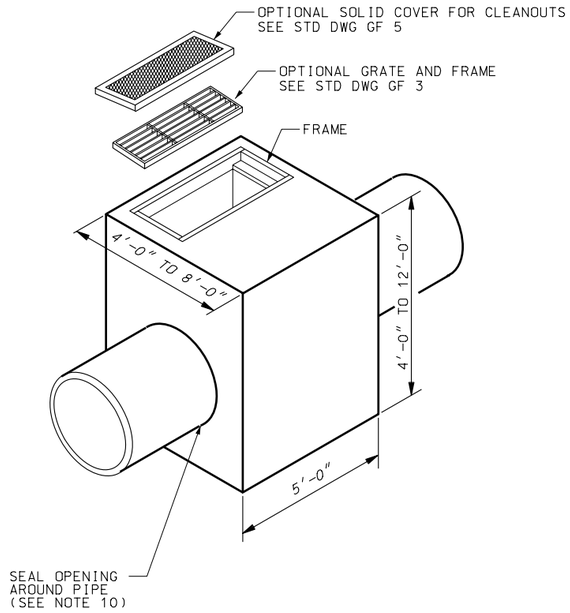
STANDARD DRAWING TITLE

STD DWG
1-C

DGN File: L:\Standard_Drawings\Imperial\2005\Approved\Change3\Approved\sheet1c.dgn
11-JUL-2005



PLAN



NOTES

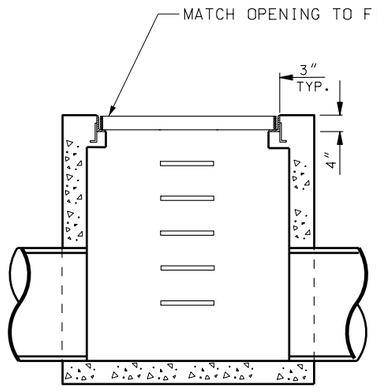
1. USE COATED DEFORMED BILLET REINFORCING STEEL BARS CONFORMING TO AASHTO M 284 OR M 111 AND M 31, GRADE 60 RESPECTIVELY.
2. USE TYPE II CEMENT (LOW ALKALI).
3. PROVIDE $\frac{3}{4}$″ CHAMFER ON ALL EXPOSED CONCRETE CORNERS EXCEPT WHERE NOTED OTHERWISE.
4. USE CONCRETE CLASS AA(AE).
5. PROVIDE MINIMUM 2″ COVER FOR ALL REINFORCING STEEL.
6. FOR CURB AND GUTTER APPLICATIONS SEE STD DWG CB 1 AND CB 2 FOR BOX ELEVATIONS. INCLUDE CONCRETE QUANTITIES FOR CURB AND GUTTER IN ROADWAY QUANTITIES.
7. FOR MANHOLE STEPS SEE STD DWG GF 6.
8. USE 8″ LONG, # 4 DOWEL BARS @ 8″ O.C. MAX. OR EXTEND BOX REBARS 4″INTO THE CURB AND GUTTER, TO ATTACH CURB AND GUTTER TO THE BOX.
9. WHEN USING THE BOX AS AN INLET, SET EDGES OF THE BOX TO MATCH PAVEMENT FINISH GRADE AROUND BOX PERIMETER. SET TOP OF BOX SURFACE TO MATCH PAVEMENT CROSS AND LONGITUDINAL SLOPES. RESET ANY BOXES WHERE BOX SURFACE OR GRATE AND FRAME IS NOT FLUSH WITH PAVEMENT. DO NOT EXCEED $\frac{1}{4}$″ GRATE DEPRESSION.
10. CENTER PIPE IN BOX OPENING, USE NO-SHRINK GROUT TO SEAL OPENING AROUND THE PIPE, OR USE PIPE MANUFACTURER PIPE-BOOT INSTEAD.

DESIGN DATA

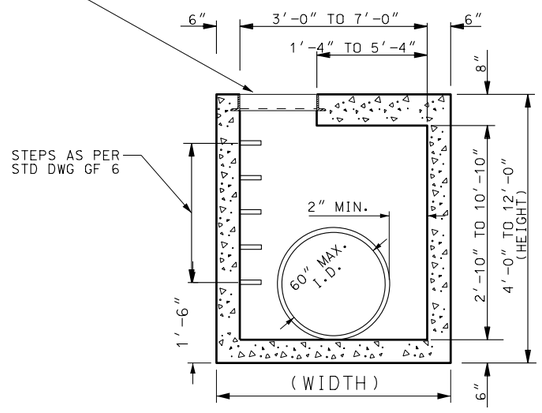
HS 20 OR INTERSTATE ALTERNATE LOADING IN ACCORDANCE WITH AASHTO 17th EDITION SPECIFICATIONS.

STRUCTURAL STEEL: Fy = 36,000 psi

STRUCTURAL CONCRETE: f′c = 4,000 psi
fy = 60,000 psi
n = 8



SECTION A–A



SECTION B–B

QUANTITIES

(FOR DESIGN INFORMATION ONLY)

USE THE FOLLOWING EQUATIONS FOR CALCULATING VOLUME OF CONCRETE AND WEIGHT OF STEEL: (ENTER ALL DIMENSIONS IN FEET)

CONCRETE VOLUME

BOX WIDTHS OF 4′ TO 8′ & DEPTHS OF 4′ TO 12′

CONCRETE VOLUME (CU YDS) = (0.037*WIDTH+0.1853) *DEPTH+ (0.2161*WIDTH – 0.2811)

TO CALCULATE VOLUME OF CONCRETE OF PIPE HOLES
VOLUME OF HOLES (CU YDS) = 0.0083 * (PIPE DIAMETER) – 0.0929

WEIGHT OF REINFORCING STEEL

BOX WIDTHS OF 4′ UP TO 8′ & DEPTHS OF 4′ TO 12′

REBAR WEIGHT (LBS) = (4.101*WIDTH + 19.869) * DEPTH + (19.742 * WIDTH + 15.267)

CATCH BASIN / CLEANOUT BOX

GRATE AND FRAME APPLICATION

NO.	DATE	APPR.	REMARKS
1	06/30/05	M.F.	CORRECTED SECTION B-B TO CHANGE 2" MAX TO 2" MIN.

REVISIONS

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — DEPUTY DIRECTOR — JUN.30.2005 DATE

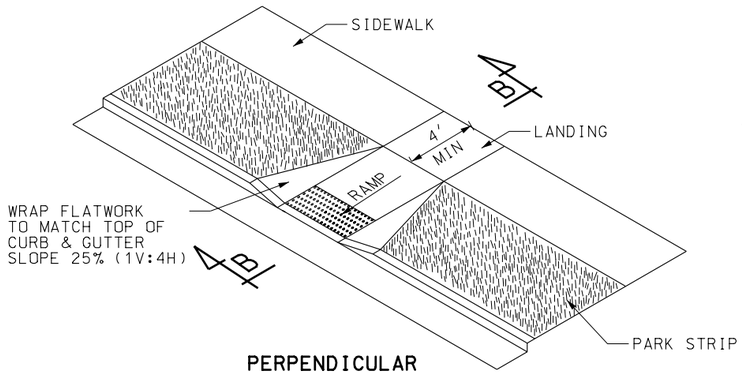
CHAIRMAN STANDARDS COMMITTEE APPROVED — JUN.30.2005 DATE

STANDARD DRAWING TITLE

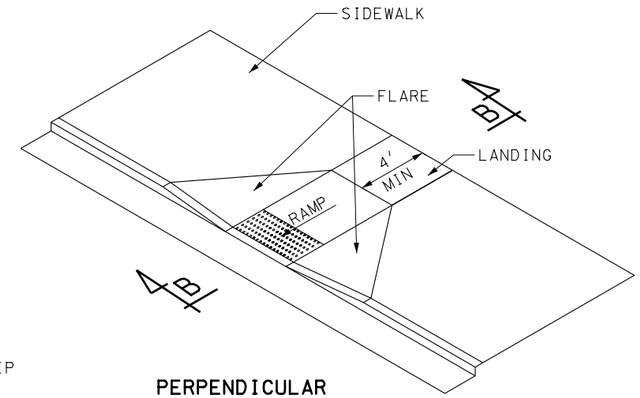
STANDARD CATCH BASIN AND CLEANOUT BOX

STD DWG
CB 5A

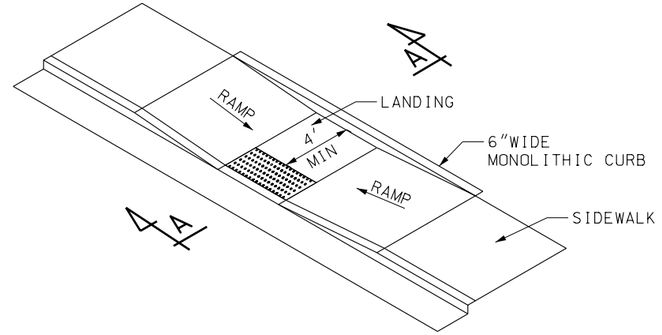
DGN File:L:\Standard Drawings\Imperial\2005Approved\Change3Approved\cb05A.dgn
11-JUL-2005



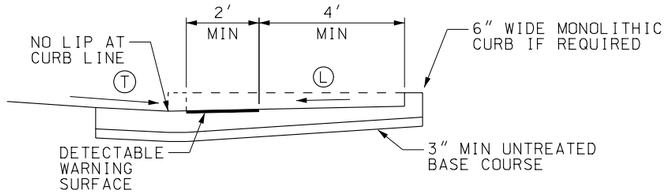
PERPENDICULAR PEDESTRIAN RAMP



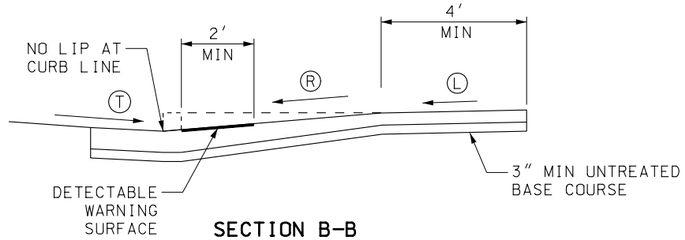
PERPENDICULAR PEDESTRIAN RAMP



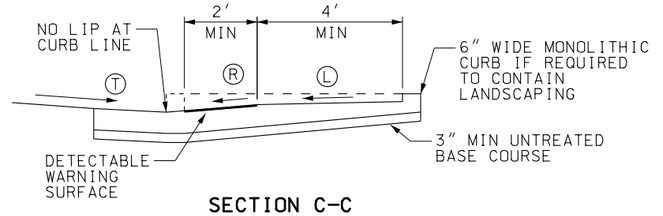
PARALLEL PEDESTRIAN RAMP



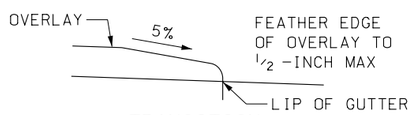
SECTION A-A



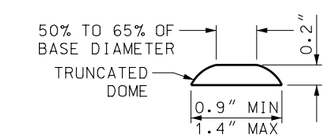
SECTION B-B

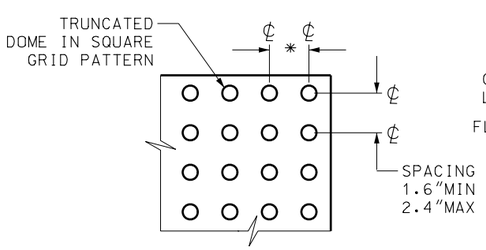


SECTION C-C

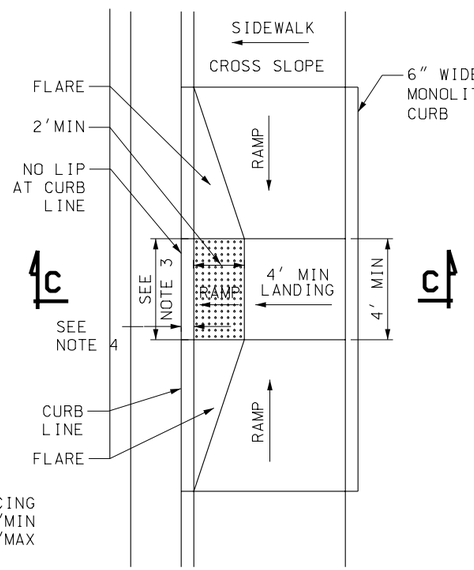


TRANSITION DETAIL





DETECTABLE WARNING SURFACE DETAIL A



PEDESTRIAN ACCESS RAMP DETAIL

SLOPE TABLE			
	ITEM	MAX. RUNNING SLOPE *	MAX. CROSS SLOPE *
(L)	LANDING	2% (1V:48H)(b)	2% (1V:48H) (b)
(R)	RAMP	8.33% (1V:12H)(c)	2% (1V:48H) (d)
(T)	TRANSITION	5% (1V:20H)(a)	2% (1V:48H) (d)
	SIDEWALK	--	2% (1V:48H)
	FLARE	10% (1V:10H)	--

* RUNNING SLOPE IS IN THE DIRECTION OF PEDESTRIAN TRAVEL, WHILE CROSS SLOPE IS PERPENDICULAR TO PEDESTRIAN TRAVEL.

(a) TRANSITION RUNNING SLOPE NEEDS TO BE CONSTANT ACROSS ENTIRE CURB CUT. WARP GUTTER PAN TO MEET REQUIRED TRANSITION SLOPE AT CURB CUT.

EXCEPTION:

(b) SLOPE REQUIREMENTS DO NOT APPLY AT MID-BLOCK CROSSINGS.

(c) PARALLEL RAMPS ARE NOT REQUIRED TO EXCEED 15-FEET IN LENGTH.

(d) CROSS SLOPE REQUIREMENT DOES NOT APPLY AT PERPENDICULAR RAMP MID-BLOCK CROSSING.

NOTES:

1. CONFIGURATION OF RAMPS AND LANDINGS MAY BE CHANGED BUT MUST MEET PEDESTRIAN RAMP DIMENSION AND SLOPE REQUIREMENTS. SPECIFIC SITE CONDITIONS WILL VARY. THE USE OF FLARES, CURBWALLS, ETC. ARE AT THE DISCRETION OF THE ENGINEER.
2. PERPENDICULAR AND PARALLEL PEDESTRIAN RAMPS SHOWN ON THIS DRAWING ARE ACCEPTABLE FOR USE AT MID BLOCK OR CORNER INSTALLATIONS. REFER TO STD DWG GW 5B AND GW 5C FOR EXAMPLES OF CORNER INSTALLATIONS.
3. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF RAMP, LANDING, OR CURB CUT. SEE DETAIL A FOR DETECTABLE WARNING SURFACE DIMENSIONS.
4. LOCATE DETECTABLE WARNING SURFACE SO THAT THE EDGE NEAREST THE STREET IS 6" TO 8" FROM THE CURB LINE.
5. PROVIDE DETECTABLE WARNING SURFACE THAT CONTRASTS WITH ADJACENT WALKING SURFACE, EITHER LIGHT-ON-DARK OR DARK-ON-LIGHT. ACCEPTABLE COLORS INCLUDE: RED, BLACK, OR YELLOW.
6. USE CLASS AA(AE) CONCRETE.
7. USE UNTREATED BASE COURSE UNDER ALL CONCRETE FLATWORK.

REVISIONS				
NO.	DATE	APPR.	REMARKS	
1	06/30/05	L.M.	PERPENDICULAR PEDESTRIAN RAMP DETAIL MODIFIED.	

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.30, 2005 DATE

CHAIRMAN STANDARDS COMMITTEE

APPROVED — JUN.30, 2005 DATE

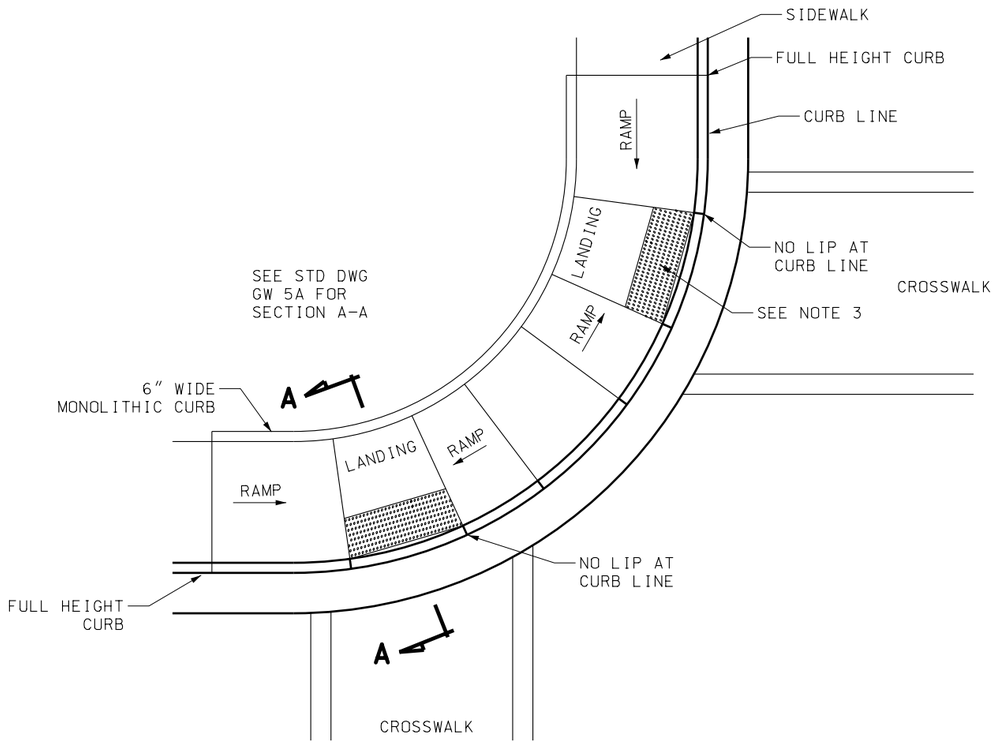
DEPUTY DIRECTOR

PEDESTRIAN ACCESS

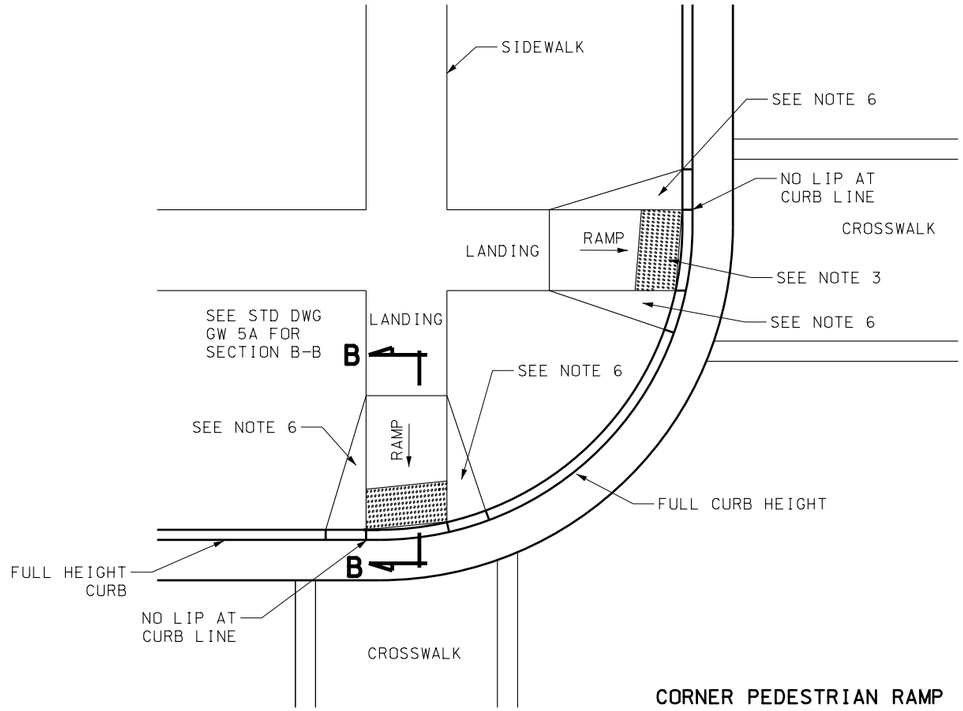
STANDARD DRAWING TITLE

STD DWG

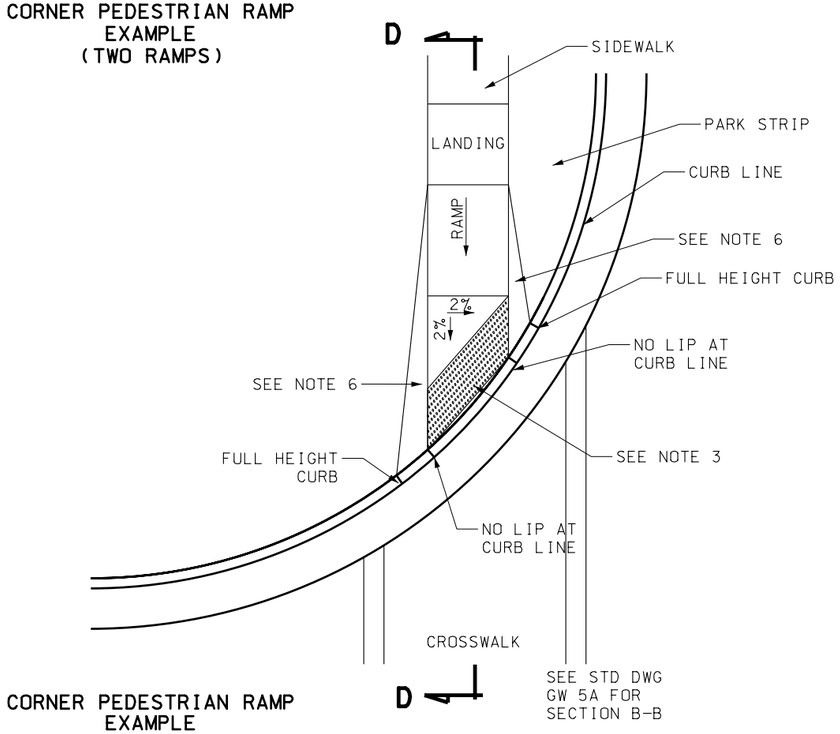
GW 5A



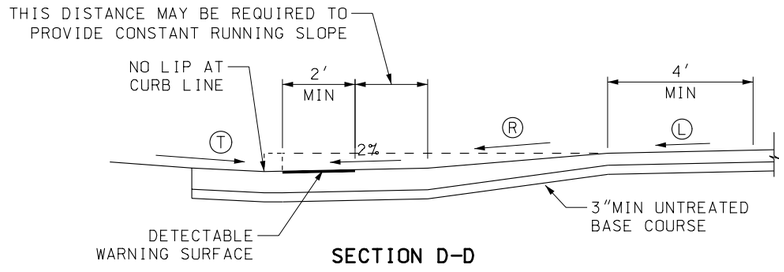
CORNER PEDESTRIAN RAMP EXAMPLE (TWO RAMPS)



CORNER PEDESTRIAN RAMP EXAMPLE (TWO RAMPS)



CORNER PEDESTRIAN RAMP EXAMPLE



SECTION D-D

NOTES:

1. REFER TO STD DWG GW 5A FOR PEDESTRIAN ACCESS RAMP DETAIL AND SLOPE REQUIREMENTS.
2. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF RAMP, LANDING, OR CURB CUT. SEE DETAIL A ON STD DWG GW 5A FOR DETECTABLE WARNING SURFACE DIMENSIONS.
3. LOCATE DETECTABLE WARNING SURFACE SO THAT THE EDGE NEAREST THE STREET IS 6" TO 8" FROM THE CURB LINE.
4. WHEN DETECTABLE WARNING SURFACE IS CUT, GRIND REMAINING PORTION OF ANY CUT DOMES. SEAL ALL CUT PANEL EDGES TO PREVENT WATER DAMAGE.
5. LOCATE CURB CUT WITHIN CROSSWALK.
6. WARP FLATWORK TO MATCH TOP OF CURB AND GUTTER SLOPE 25% (1V:4H).

REVISIONS

NO.	DATE	APPR.	REMARKS
1	06/30/05	L.M.	CORNER PEDESTRIAN RAMP EXAMPLE DETAIL MODIFIED.

UTAH DEPARTMENT OF TRANSPORTATION

STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION

SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.30,2005 DATE — DEPUTY DIRECTOR

CHAIRMAN STANDARDS COMMITTEE — JUN.30,2005 DATE

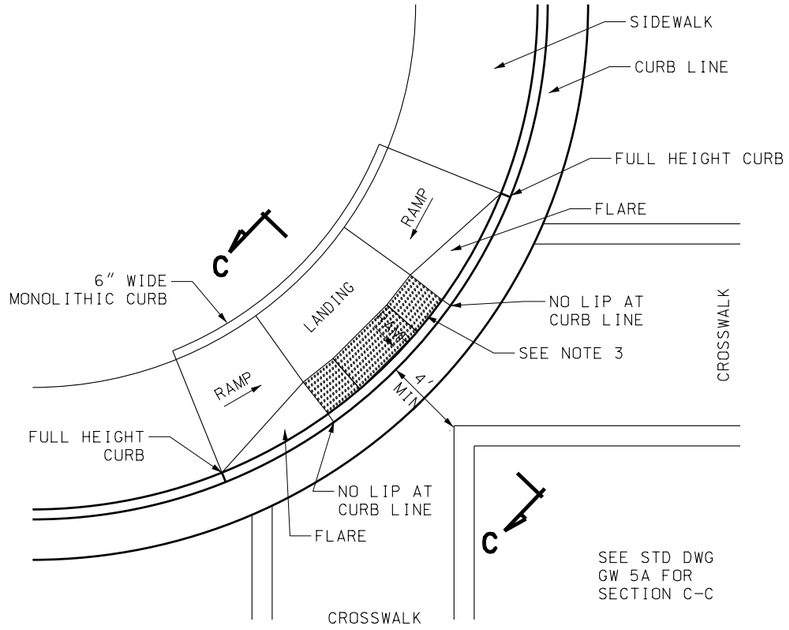
PEDESTRIAN ACCESS

STANDARD DRAWING TITLE

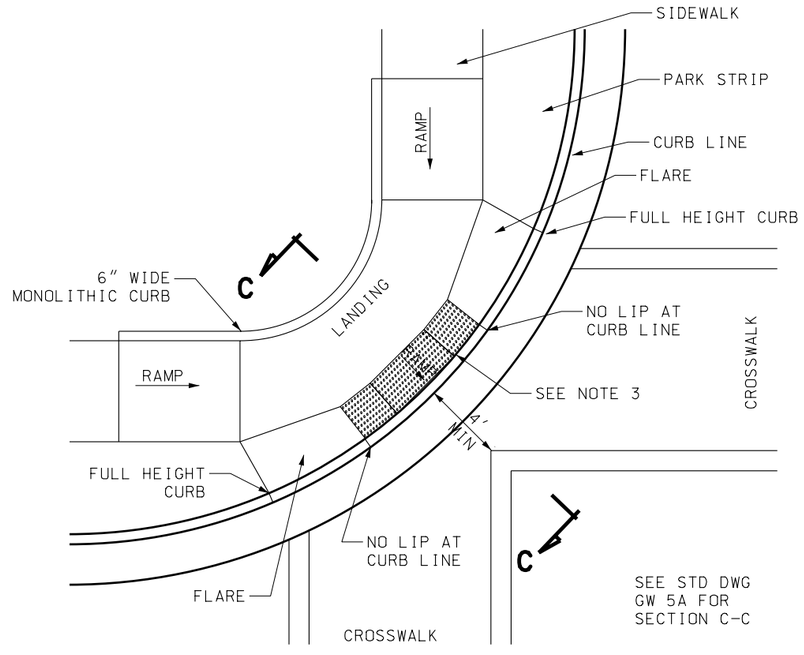
STD DWG GW 5B

DGN File:L:\Standard Drawings\Imperial\2005Approved\xChange3Approved\gw05b.dgn

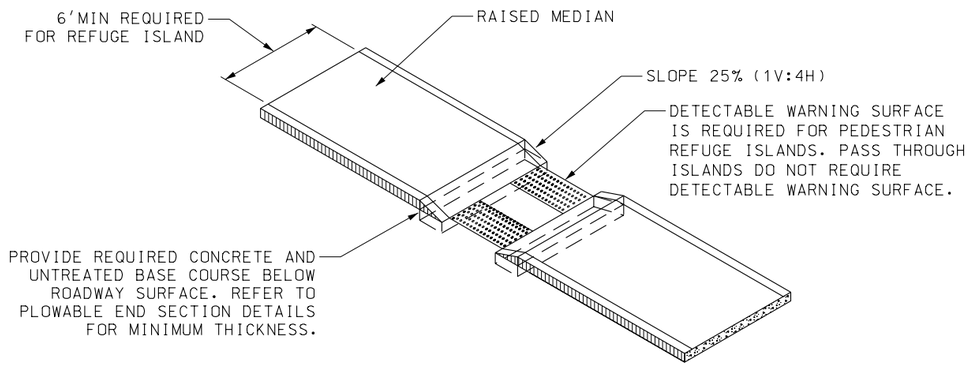
11-JUL-2005



CORNER PEDESTRIAN RAMP
EXAMPLE



CORNER PEDESTRIAN RAMP
EXAMPLE



MEDIAN BREAK
EXAMPLE

NOTES:

1. REFER TO STD DWG GW 5A FOR PEDESTRIAN ACCESS RAMP DETAIL AND SLOPE REQUIREMENTS.
2. PROVIDE DETECTABLE WARNING SURFACE FOR FULL WIDTH OF RAMP, LANDING, OR CURB CUT. SEE DETAIL A ON STD DWG GW 5A FOR DETECTABLE WARNING SURFACE DIMENSIONS.
3. LOCATE DETECTABLE WARNING SURFACE SO THAT THE EDGE NEAREST THE STREET IS 6" TO 8" FROM THE CURB LINE.
4. WHEN DETECTABLE WARNING SURFACE IS CUT, GRIND REMAINING PORTION OF ANY CUT DOMES. SEAL ALL CUT PANEL EDGES TO PREVENT WATER DAMAGE.
5. LOCATE CURB CUT WITHIN CROSSWALK.

REVISIONS

NO.	DATE	APPR.	REMARKS
1	06/30/05	L.M.	MEDIAN BREAK EXAMPLE MODIFIED.

UTAH DEPARTMENT OF TRANSPORTATION
STANDARD DRAWINGS FOR ROAD AND BRIDGE CONSTRUCTION
SALT LAKE CITY, UTAH

RECOMMENDED FOR APPROVAL — JUN.30.2005 DATE
CHAIRMAN STANDARDS COMMITTEE
APPROVED — JUN.30.2005 DATE
DEPUTY DIRECTOR

PEDESTRIAN ACCESS
STANDARD DRAWING TITLE

STD DWG
GW 5C

DGN File:L:\Standard Drawings\Imperial\2005Approved\Change3Approved\gw05c.dgn
11-JUL-2005